MIMO Techniques for LPI/LPD/AJ Communications in Highly Mobile Networks

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Abstract
San Diego Research Center (SDRC) proposes to develop, validate and demonstrate an advanced OFDM Multiple-Input-Multiple-Output (MIMO) architecture for high mobility, military applications. The architecture will cover both PHY and MAC levels to ensure maximum support of multiple modalities on a single platform (i.e. individual communicator, cluster head controller, back-bone communicator, etc). The envisioned PHY will incorporate 30 to 40 dB of degrees of freedom (DOF) supporting multiple antennas to thwart advanced EW threats, while enabling robust, high-data-rate, and mobile tactical communications. The envisioned MAC will be tightly coupled to the PHY to facilitate maximum exploitation of the many PHY DOFs to support mission objectives. The proposed work will strongly leverage MIMO PHY and MAC work that SDRC is performing for other government customers.

* information listed above is at the time of submission.